

ABSTRACT OF THE DISCLOSURE

Sub a1 > ASK modulation parts 111 to 11n receive digital data 11 to 1n, respectively, for ASK modulation and then multiplexing. The resultant signal obtained thereby is used to SSB modulate light coming from a light source 130. An optical filter part 550 receives an optical signal obtained through SSB modulation, and from the signal, an optical carrier component and an optical sideband component are extracted. The optical sideband component is then SSB modulated again this time by a local oscillation signal equal in carrier frequency to any one digital data desired among those 11 to 1n, and then combined with the optical carrier component. Thus obtained optical signal is converted, by square detection, in an optical-electrical conversion part 370 into an electrical signal. This electrical signal is the desired one which has been demultiplexed through the system.